

REMARKS

Claims 1-22 are pending and stand rejected under 35 USC § 103. Applicant appreciates the interview regarding the rejection of the claims although no agreement was reached. Applicant respectfully traverses the rejections in light of the amendments and the following remarks.

Applicant requests interview

Applicant respectfully requests an interview if it would expedite disposition of the application. The undersigned attorney would welcome and encourage a telephone conference with Examiner at (512) 243-5936.

Claim rejections under 35 USC § 101

Claims 17-22 stand rejected under 35 USC § 101 as being non-statutory subject matter. Applicant respectfully suggests that the amendment to claim 17 to cover a computer usable storage medium clearly describes statutory subject matter. In particular, the specification as filed at par. 67 distinguishes signal-bearing storage media from signal-bearing communication media. Applicant traverses the rejections and requests the rejections be withdrawn.

Claim rejections under 35 USC § 112

The Office action indicates that claims 1-22 fail to comply with the written description requirement because the independent claims recite “in response to receipt of unshared access to at least a portion of the memory location.” Applicant clarified the questioned functionality with more specific functionality explicitly described and supported by, e.g., paragraphs 27 and 34. Thus, Applicant respectfully requests that the rejections be withdrawn.

For similar reasons, the rejection for failing to particularly point out and distinctly claim the invention are moot.

Claim rejections under 35 USC § 103(a)

The Office action rejected claims 1-2, 5, 7-9, 12-13, 15-17, 19, and 21-22 under 35 USC § 103(a) as being unpatentable over Chiang, U.S. Patent Publication No. 2001/0047477 (hereinafter referred to as “Chiang”) in view of Simon St. Laurent’s *Cookies*, 1998 (hereinafter referred to as “Laurent”) and in further view of Chakraborty et al., U.S. Patent Publication No. 2004/0107282 (hereinafter referred to as “Chakraborty”).

The Office action rejected claims 1-2, 5, 7-9, 12-13, 15-17, 19, and 21-22 under 35 USC § 103(a) as being unpatentable over Chiang in view of Bennett, III et al., U.S. Patent No. 6,154,528 (hereinafter referred to as “Bennett”).

The Office action rejected claim 19 under 35 USC § 103(a) as being unpatentable over Chiang in view of Bennett and Laurent.

The Office action rejected claims 3, 14, 18, and 20 under 35 USC § 103(a) as being unpatentable over Chiang in view of Laurent and Colby, U.S. Patent No. 6,625,643 (hereinafter referred to as “Colby”).

The Office action rejected claims 4 and 10 under 35 USC § 103(a) as being unpatentable over Chiang in view of Bennett and Wu, U.S. Patent Publication No. 2004/0068572 (hereinafter referred to as “Wu”).

Furthermore, the Office action rejected claims 6 and 11 under 35 USC § 103(a) as being unpatentable over Chiang in view of Bennett and Walls, U.S. Patent Publication No. 2004/0156378 (hereinafter referred to as “Walls”).

To establish a prima facie case of obviousness, the modification or combination must teach or suggest all of Applicants’ claim limitations.¹

The combination of Chiang and Bennett, as well as Chiang, Laurent, and Chakraborty, fails to establish a prima facie case of obviousness for independent claims 1, 9 and 17 because the combinations are improper and fail to teach or suggest all of Applicants’ claim limitations.

¹ *In re Royka*, 490 F.2d 981, 985, 180 USPQ 580, 583 (CCPA 1974).

*Chiang, Laurent, and Chakraborty and Chiang and Wu are Improper
Combinations because Chiang Teaches Away*

The combination is improper because Chiang teaches away from the combination indicated in the rejection and the combination changes a principle of operation of Chiang.

First, the rejections of the limitations in claims 1, 9, and 17 are based upon Chiang for “server-side” functionality to generate a session identification and authenticate the user login session via the session identification. The rejection then states that while Chiang does not explicitly teach “...storing the session identification in the memory location... [that is] independent of de-allocations of memory for more than one applications...”², Laurent teaches cookies for storage of the session identification. Laurent teaches storage of cookies with a “client-side” browser. So the combination as set forth by the Office action to reject claims 1, 9, and 17 asserts the use of cookies to store session identifications in cookies with “client-side” browsers rather than storing the “server-side”. Chiang, however, indicates that the storage of such data with the browsers is one of the specific problems that is overcome by embodiments of Chiang:

Existing web applications managed by servers are designed to internally manage cookies from incoming requests to identify different sessions and/or users in this manner. However, developing the software code for managing the cookies associated with the HTTP protocol is time-consuming and error prone.³

Chiang teaches a server-side “...database management program for maintaining and interacting with the user database...”⁴ The specific combination that the Office action asserts as the basis to reject claims 1, 9, and 17, changes the principal of operation of Chiang. Thus, the combination is improper and the rejection of claim 1, as well as its dependents should be withdrawn.

Second, Chiang teaches away from Wu. Wu uses session states and session objects to manage different users and sessions. Wu establishes a communication session, a user session, and a client session in response to a request from a client to establish the

² Claim 1.

³ Chiang, on pg. 1, par. 10.

⁴ Chiang on page 4, par. 50, 2nd sent.

communication session.⁵ “...Upon termination of the first client session, the server stores user session data in a memory element, which can be, for example, a database....”⁶ “...In one embodiment, the user session mechanism assigns a state to an established user session. This state may be an active state, a suspended state, or a completed state.”⁷ Wu also discusses the creation and storage of a client session object 325 and a user session object 330.⁸ However, Chiang indicates that the storage of user and session states as well as user and session data in objects present problems that are overcome by embodiments of Chiang:

Alternatively, both software libraries and session objects have also been used to enable web applications to manage different users and/or sessions. The first approach provides two variables to a web application for each request to identify the session and user. The web application can then use either hash tables in memory, files on a file system or tables in a database system **to keep the application states associated with each session and user.**⁹

The second approach provides a session object to a web application for each request. **The session object allows the web application to store the application states associated with the session in the object.**¹⁰

Software libraries and session objects, however, are also difficult to incorporate into an object-oriented software development framework. Hash tables and session objects are simply data structures used to store application states without the corresponding methods for manipulating the underlying data. They also cannot enforce type-checking for the data that they store.¹¹

Chiang states that management through web applications that use the user and session states and session objects are difficult to incorporate into an object-oriented software development framework, are simply data structures for storing data without methods to manipulate that data, and cannot enforce type-checking for the data they

⁵ Wu at Abstract and par. 12 of Summary of the Invention sect.

⁶ Wu at Abstract and par. 12 of Summary of the Invention sect.

⁷ Wu at par. 12 of Summary of the Invention sect, last 2 sent..

⁸ Wu at pg. 4, par. 44.

⁹ Chiang, on pg. 1, par. 11; emphasis added.

¹⁰ Chiang, on pg. 1, par. 12; emphasis added.

¹¹ Chiang, on pg. 1, par. 13.

store. The Office action, however, relies on a combination of aspects of management of the data in session objects with the session management in Chiang to make obvious claims 4 and 10 of the parent application. However, it is the management of the session objects that Chiang specifically indicates is problematic in the background section. Thus, this combination changes a principle of operation of Chiang and is improper.

Furthermore, the portions of Wu that the Office action incorporates into Chiang involve management of data that is stored “client-side” with the browser as a cookie. Wu locks data in a cookie “client-side”¹² and, upon termination of the session, stores the state of the cookie in the session object “server-side”¹³ so that the session can be resumed, e.g., at another location at a different time without losing partial work performed during a session.¹⁴ Incorporating state information from a session object into Chiang to support the rejections is contrary to the teachings of Chiang and is therefore improper.

Chiang and Bennett is Improper Combination because Chiang Teaches Away

The combination is improper because Chiang teaches away from the combination indicated in the rejection and the combination changes a principle of operation of Chiang.

The rejections of the limitations in claims 1, 9, and 17 are based upon Chiang for “server-side” functionality to generate a session identification and authenticate the user login session via the session identification. The rejection then states that while Chiang does not explicitly teach “...storing the session identification in the memory location... [that is] independent of de-allocations of memory for more than one applications...”¹⁵, Bennett teaches cookie files for storage of generic information about the caller as well as possibly information pertaining to the specific remote service, which the Office action equates to session identification.¹⁶ Bennett teaches storage of cookies with a “client-side” or caller CPE (customer premises equipment) such as a phone or computer with the

¹² Wu pg. 7, par. 73.

¹³ Wu pg. 7, par. 76.

¹⁴ Wu pg. 7, par. 77.

¹⁵ Claim 1.

¹⁶ Bennett, col. 2, lines 37-44.

capabilities to store the cookie files.¹⁷ So the combination as set forth by the Office action to reject claims 1, 9, and 17 asserts the use of cookies to store session identifications in cookies with “client-side” CPEs rather than storing the “server-side”. Chiang, however, indicates that the storage of such data “client-side” is one of the specific problems that is overcome by embodiments of Chiang:

Existing web applications managed by servers are designed to internally manage cookies from incoming requests to identify different sessions and/or users in this manner. However, developing the software code for managing the cookies associated with the HTTP protocol is time-consuming and error prone.¹⁸

Chiang teaches a server-side “...database management program for maintaining and interacting with the user database...”¹⁹ The specific combination that the Office action asserts as the basis to reject claims 1, 9, and 17, changes the principal of operation of Chiang. Thus, the combination is improper and the rejection of claim 1, as well as its dependents should be withdrawn.

*The Combination of Chiang, Laurent, and Chakraborty Fails to Teach or Suggest
All of Applicants’ Claim Limitations*

With regards to claim 1, the combination fails to teach or suggest allocating, by the embedded system, application independent memory to create a memory location of the embedded system for shared access by more than one applications of the embedded system and arbitrating the shared access to at least a portion of the memory location of the embedded system by checking a semaphore in the memory location to determine whether an application is currently accessing the at least a portion of the memory location and, if not, granting access to the at least a portion of the memory location by storing an in-use indication in the semaphore, the in-use indication comprising the session identification, the memory location being configured to retain the session identification independent of de-allocations of memory for the more than one applications, to

¹⁷ Bennett, col. 2, lines 28-35.

¹⁸ Chiang, on pg. 1, par. 10.

¹⁹ Chiang on page 4, par. 50, 2nd sent.

authenticate the user for the login session; and by releasing the at least a portion of the memory location for access by other of the more than one applications by resetting the in-use indication in the semaphore.

Assuming, in arguendo, that the combination is proper, the rejection of claim 1 fails to teach every limitation of claim 1. In particular, the teachings of Chiang and Laurent fail to teach or suggest “allocating, by the embedded system, application independent memory...of the embedded system...”²⁰ Chiang teaches a “...database management program for maintaining and interacting with the user database...”²¹ Such memory is dependent upon the database management program. There is no suggestion in Chiang that there is another program that can access the session identifications other than the “database management program”. Laurent teaches client-side cookies so does not teach or suggest “...application independent memory...of the embedded system...”²². Thus, the rejection of claim 1 should be withdrawn and claim 1 as well as claims dependent upon claim 1 should be allowed.

The teachings of Chiang and Laurent fail to teach or suggest “...allocating... to create a memory location of the embedded system for shared access by more than one applications of the embedded system...”²³ Chiang teaches a “...database management program for maintaining and interacting with the user database...”²⁴ Laurent teaches client-side cookies associated with a specific browser. Laurent does not teach a cookie that is shared amongst more than one browser. Neither Chiang nor Laurent teach shared access by more than one applications of the embedded system. Thus, the rejection of claim 1 should be withdrawn and claim 1, as well as dependents of claim 1 should be allowed.

The combination of Chiang and Laurent fails to teach or suggest “...arbitrating the shared access to at least a portion of the memory location of the embedded system by checking a semaphore in the memory location to determine whether an application is

²⁰ Claim 1.

²¹ Chiang on page 4, par. 50, 2nd sent.

²² Claim 1.

²³ Claim 1.

²⁴ Chiang on page 4, par. 50, 2nd sent.

currently accessing the at least a portion of the memory location and, if not, granting access to the at least a portion of the memory location by storing an in-use indication in the semaphore, the in-use indication comprising the session identification....”²⁵ Chiang teaches utilization of session management functionality to track usage of application instances and application variables in a database.²⁶ Laurent teaches storage of cookies on the user’s computer.²⁷ Neither Chiang nor Laurent teach or suggest acquiring unshared access to at least a portion of the database or cookie. In fact, neither even discuss the possibility of sharing access amongst more than one application. Thus, the rejection of claim 1 should be withdrawn and claim 1, as well as dependents of claim 1 should be allowed.

The combination of Chiang and Laurent fails to teach or suggest “...storing an in-use indication in the semaphore, the in-use indication comprising the session identification, the memory location being configured to retain the session identification independent of de-allocations of memory for the more than one applications, to authenticate the user for the login session....”²⁸ As stated in the Office action, Chiang does not teach or suggest storing or retaining “the session identification independent of de-allocations of memory for individual applications.” And Laurent does not address storing or retaining a session “...in the memory location of the embedded system....”²⁹ So the combination of Chiang and Laurent fails to teach or suggest all the limitations of independent claim 1. Applicant respectfully traverses the rejections of claim 1 and requests that claim 1 and its dependents be allowed.

With regards to claims 9 and 17, the combination fails to teach or suggest a memory location of the embedded system to retain a session identification independent of de-allocation of memory for more than one applications executed on the embedded system; and storing the session identification in the memory location of the embedded system in response to receipt of unshared access to at least a portion of the memory

²⁵ Claim 1.

²⁶ Chiang on pg. 3 at pars. 36-37, pg. 4 at pars. 51 and 54, and fig. 2.

²⁷ Laurent on pg. 22, at the last Note, in the first sent.

²⁸ Claim 1.

²⁹ Claim 1.

location, the memory location being configured to retain the session identification independent of de-allocations of memory for the more than one applications.

Assuming, in arguendo, that the combination is proper, the rejection of claim 9 fails to teach every limitation of claim 9. In particular, the teachings of Chiang, Laurent, and Chakraborty fail to teach or suggest “an arbitrator to facilitate shared access to the memory location by the more than one applications executed on the embedded system”³⁰ Chiang teaches a “...database management program for maintaining and interacting with the user database....”³¹ Access is dependent upon and via the database management program. There is no suggestion in Chiang that there is another program that can access the session identifications other than the “database management program”. Laurent teaches client-side cookies so does not teach or suggest “...memory...of the embedded system....”³². Thus, the rejection of claim 9 is traversed and should be withdrawn and claim 9 as well as claims dependent upon claim 1, should be allowed.

The combination of Chiang, Laurent, and Chakraborty fails to teach or suggest “...granting access to the at least a portion of the memory location by storing an in-use indication in the semaphore, the in-use indication comprising the session identification...” of claim 17. Chiang teaches utilization of session management functionality to track usage of application instances and application variables in a database.³³ Laurent teaches storage of cookies on the user’s computer.³⁴ The combination does not teach or suggest acquiring a grant of unshared access to at least a portion of the memory location prior to storing the session identification. Thus, the rejection of claim 17 is traversed and should be withdrawn and claim 17, as well as dependents of claim 17, should be allowed.

³⁰ Claim 1.

³¹ Chiang on page 4, par. 50, 2nd sent.

³² Claim 1.

³³ Chiang on pg. 3 at pars. 36-37, pg. 4 at pars. 51 and 54, and fig. 2.

³⁴ Laurent on pg. 22, at the last Note, in the first sent.

*The Combination of Chiang and Bennett Fails to Teach or Suggest All of
Applicants' Claim Limitations*

With regards to claim 1, the combination fails to teach or suggest allocating, by the embedded system, application independent memory to create a memory location of the embedded system for shared access by more than one applications of the embedded system and arbitrating the shared access to at least a portion of the memory location of the embedded system by checking a semaphore in the memory location to determine whether an application is currently accessing the at least a portion of the memory location and, if not, granting access to the at least a portion of the memory location by storing an in-use indication in the semaphore, the in-use indication comprising the session identification, the memory location being configured to retain the session identification independent of de-allocations of memory for the more than one applications, to authenticate the user for the login session; and by releasing the at least a portion of the memory location for access by other of the more than one applications by resetting the in-use indication in the semaphore.

Assuming, in arguendo, that the combination is proper, the rejection of claim 1 fails to teach every limitation of claim 1. In particular, the teachings of Chiang and Bennett fail to teach or suggest “allocating, by the embedded system, application independent memory...of the embedded system...”³⁵ Chiang teaches a “...database management program for maintaining and interacting with the user database...”³⁶ Such memory is dependent upon the database management program. There is no suggestion in Chiang that there is another program that can access the session identifications other than the “database management program”. Bennett teaches client-side cookie files so does not teach or suggest “...application independent memory...of the embedded system...”³⁷. Thus, the rejection of claim 1 should be withdrawn and claim 1 as well as claims dependent upon claim 1 should be allowed.

³⁵ Claim 1.

³⁶ Chiang on page 4, par. 50, 2nd sent.

³⁷ Claim 1.

The Office action indicates that the Abstract in Bennett suggests that the session identification is stored for future use and thus other applications. This reasoning is flawed because Bennett teaches storing the cookies in the CPE that places the call to a service provider so that the service provider does not have to store cookie files of multiple callers.³⁸ Thus, the CPE in Bennett that stores the cookie files is the equivalent of the client-side browser and not the service provider. Chiang teaches a server-side "...database management program for maintaining and interacting with the user database...."³⁹

The teachings of Chiang and Laurent fail to teach or suggest "...allocating... to create a memory location of the embedded system for shared access by more than one applications of the embedded system...."⁴⁰ Chiang teaches a "...database management program for maintaining and interacting with the user database...."⁴¹ Bennett teaches client-side cookie files associated with a specific CPE.⁴² Bennett does not teach a cookie that is shared amongst more than one browser. Neither Chiang nor Bennett teach shared access by more than one applications of the embedded system. Thus, the rejection of claim 1 should be withdrawn and claim 1, as well as dependents of claim 1 should be allowed.

The combination of Chiang and Laurent fails to teach or suggest "...arbitrating the shared access to at least a portion of the memory location of the embedded system by checking a semaphore in the memory location to determine whether an application is currently accessing the at least a portion of the memory location and, if not, granting access to the at least a portion of the memory location by storing an in-use indication in the semaphore, the in-use indication comprising the session identification"⁴³ Chiang teaches utilization of session management functionality to track usage of application instances and application variables in a database.⁴⁴ Bennett teaches storage of cookies on

³⁸ Bennett, col. 2, lines 45-52.

³⁹ Chiang on page 4, par. 50, 2nd sent.

⁴⁰ Claim 1.

⁴¹ Chiang on page 4, par. 50, 2nd sent.

⁴² Bennett, col. 2, lines 22-52.

⁴³ Claim 1.

⁴⁴ Chiang on pg. 3 at pars. 36-37, pg. 4 at pars. 51 and 54, and fig. 2.

the user's CPE.⁴⁵ Neither Chiang nor Bennett teach or suggest acquiring unshared access to at least a portion of the database or cookie. In fact, neither even discuss the possibility of sharing access amongst more than one application. Thus, the rejection of claim 1 should be withdrawn and claim 1, as well as dependents of claim 1 should be allowed.

The combination of Chiang and Bennett fails to teach or suggest "...storing an in-use indication in the semaphore, the in-use indication comprising the session identification, the memory location being configured to retain the session identification independent of de-allocations of memory for the more than one applications, to authenticate the user for the login session...."⁴⁶ As stated in the Office action, Chiang does not teach or suggest storing or retaining "the session identification independent of de-allocations of memory for individual applications." And Bennett does not address storing or retaining a session "...in the memory location of the embedded system...."⁴⁷ So the combination of Chiang and Bennett fails to teach or suggest all the limitations of independent claim 1. Applicant respectfully traverses the rejections of claim 1 and requests that claim 1 and its dependents be allowed.

With regards to claims 9 and 17, the combination fails to teach or suggest a memory location of the embedded system to retain a session identification independent of de-allocation of memory for more than one applications executed on the embedded system; and storing the session identification in the memory location of the embedded system in response to receipt of unshared access to at least a portion of the memory location, the memory location being configured to retain the session identification independent of de-allocations of memory for the more than one applications.

Assuming, in arguendo, that the combination is proper, the rejection of claim 9 fails to teach every limitation of claim 9. In particular, the teachings of Chiang, Bennett Laurent, Chakraborty, Colby, Wu, and Walls fail to teach or suggest "an arbitrator to facilitate shared access to the memory location by the more than one applications

⁴⁵ Bennett col. 2, 45-52

⁴⁶ Claim 1.

⁴⁷ Claim 1.

executed on the embedded system”⁴⁸ Chiang teaches a “...database management program for maintaining and interacting with the user database....”⁴⁹ Access is dependent upon and via the database management program. There is no suggestion in Chiang that there is another program that can access the session identifications other than the “database management program”. Bennett teaches “client-side” cookie files so does not teach or suggest “...memory...of the embedded system....”⁵⁰. Laurent teaches client-side cookies so does not teach or suggest “...memory...of the embedded system....”⁵¹. Wu teaches a software module, user session mechanism 205,⁵² to access a user session object 330. Wu does not teach or suggest an arbitrator to facilitate shared access to the memory location by more than one applications. Thus, the rejection of claim 9 is traversed and should be withdrawn and claim 9 as well as claims dependent upon claim 1, should be allowed.

The combination of Chiang, Bennett, Laurent, Chakraborty, Colby, Wu, and Walls fails to teach or suggest “...arbitrating the shared access to at least a portion of the memory location of the embedded system by checking a semaphore in the memory location to determine whether an application is currently accessing the at least a portion of the memory location and, if not, granting access to the at least a portion of the memory location by storing an in-use indication in the semaphore, the in-use indication comprising the session identification ...” of claim 17. Chiang teaches utilization of session management functionality to track usage of application instances and application variables in a database.⁵³ Bennett teaches storage of cookies on the user’s CPE.⁵⁴ Wu teaches storage by the user session mechanism 205.⁵⁵ The combination does not teach or suggest acquiring a grant of unshared access to at least a portion of the memory location

⁴⁸ Claim 1.

⁴⁹ Chiang on page 4, par. 50, 2nd sent.

⁵⁰ Claim 1.

⁵¹ Claim 1.

⁵² Wu pg. 4, par. 47.

⁵³ Chiang on pg. 3 at pars. 36-37, pg. 4 at pars. 51 and 54, and fig. 2.

⁵⁴ Bennettcol. 2, lines 45-52.

⁵⁵ Wu pg. 5, par. 55.

prior to storing the session identification. Thus, the rejection of claim 17 is traversed and should be withdrawn and claim 17, as well as dependents of claim 17, should be allowed.

CONCLUSION

Applicant respectfully traverses the claim rejections under 35 USC §§ 101, 112, and 103. Accordingly, Applicant believes that this response constitutes a complete response to each of the issues raised in the Office action. In light of the accompanying remarks, Applicant believes that the pending claims are in condition for allowance. Thus, Applicant requests that the rejections be withdrawn, pending claims be allowed, and application advance toward issuance.

A request for an extension accompany this action as well as authorization for the associated fees. No other fee is believed due with this paper. However, if any fee is determined to be required, the Office is authorized to charge Deposit Account 090447 for any such required fee.

Respectfully submitted,

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/Jeffrey S Schubert/

Date

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